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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/597,702	06/19/2000	Jin-woo Lee	Q59587	4261

7590 09/22/2004  
Sughrue Mion Zinn MacPeak & Seas PLLC  
2100 Pennsylvania Avenue NW  
Washington, DC 20037-3202

EXAMINER


TRUONG, LECHI

ART UNIT PAPER NUMBER

2126

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/597,702	<b>Applicant(s)</b> LEE ET AL. 	
	<b>Examiner</b> LeChi Truong	<b>Art Unit</b> 2126	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 June 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-15 and 25 is/are rejected.
- 7) ☒ Claim(s) 10 and 16-24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \*    c) ☐ None of:  
         1) ☒ Certified copies of the priority documents have been received.  
         2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
         3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
     a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                 | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____   |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)        | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

1. Claims **1-25** are presented for examination.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims **1, 8, 9, 11-12, 25** are rejected under 35 U.S.C. 103(a) as being Unpatentable over Admit Prior Art (APA) in view of Thompson et al (US. Patent 5,463,772).
3. **As to claim 1**, APA teaches the invention substantially as claimed including a slaver device (slave device, page2/ Fig. 1), a Predetermined coupling device (a coupling device, page 2), the host device (the host Device, page2), a storage device (a storage device, page2), the file system (a file system, page 2), a predetermined protocol (the physical coupling device, page 2, ln 5-9), an application (the application program), operates as a storage device of the host (the same manner of using a storage device within the host, pager 2, ln 1-8).
4. APA does not explicit teach media driver. However, Thompson teaches media driver (driver 18, col 19, ln 11-14/ a tape driver, col 25, ln 45-50).

Art Unit: 2126

5. It would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of APA and Thompson because Thompson's media driver would allow the applications to access, read or write streams of bytes to and from a mass storage peripheral served by a transparent peripheral file system.

8. As to claim 8, APA teaches a host device (slave device, Page 2/ Fig. 1), a predetermined coupling device (a coupling device, page 2), the host device (the host device, page, 2), a storage device (a storage device, page 2), a predetermined protocol (the physical coupling device, page 2, ln 5-9), the file system (a file system, page 2), an application (the application program), the storage device of the slave device operates as a storage device of the host device the storage device of the slave device operates as a storage device of the host device (the same manner of using a storage device within the host, page 2, ln 1-8).

APA does not explicitly teach a top layer. However, Thompson teaches a top layer (a ROOT 37 of file system 36, col 21, ln 42-48 to ln 55-58).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of APA and Thompson because Thompson's a ROOT 37 would provide many layers are directly connected to the root directory.

9. As to claim 9, Thompson teaches identifying the top layer (col 21, ln 55-58).

11. As to claim 11, it is an apparatus claim of claims 1, 8; therefore it is rejected the same reasons as claims 1, 8 above. In addition, Thompson teaches the top layer of the slave device and a bottom layer of the slave system (col 22, ln 40-45).

12. As to **claim 12**, it is an apparatus claim of claim 9; therefore, it is rejected for the same reason as claim 9 above.

13. As to **claim 25**, APA teaches the slave device is a portable data terminal, zip drive, MP3 player or digital camera (digital cameras, MP3 players, music video players and portable data, page 1, ln 5-17), the host device is a personal computer (a computer device is referred as a host device, page 1, ln 5-17).

14. Claims **2-3 and 13** are rejected under 35 U.S.C. 103(a) as being unpatentable Over Admit Prior Art (APA) in view of Thompson al (US. 5,463,772), as applied to claims 1 and 11 above, further in view of Jigour et al (US Patent. 5,815,426)

15. As to **claim 2**, APA and Thompson do not teach error correction unit for storage device. However, Jigour teaches error correction unit for storage device (error correction, col 18, ln 27-35).

16. It would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of APA, Thompson and Jigour because Jigour 's error correction would improve the integrity of APA and Thompson's systems by controlling /checking error for the host or device system.

Art Unit: 2126

17. **As to claim 3**, APA teaches application program within host device can use the storage device of slave in the same manner of using a storage device within the host device (page2, In 5-18), thus error correction unit in the slave device can perform connection to error correction unit or host device.

18. **As to claim 13**, it is an apparatus claim of claims 3 and 9; therefore, it is rejected for the same reasons as claims 3 and 9 above.

19. Claims **14-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Admit Prior Art (APA) in view Thompson et al (US. Patent 5,463,772) as applied to claims 11-12 above and further in view of Intel (Understanding the Flash Translation (FTL) Specification)

20. **As to claim 14**, APA and Thompson do not teach a logical-to-physical converter. However, Intel teaches logical-to-physical converter (Logical to physical mapping, section 7.0).

21. It would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of APA, Thompson and Intel because Intel's logical to physical mapping would translates between physical and logical addresses.

22. **As to claim 15**, APA teaches application program within host device can use the storage device of slave in the same manner of using a storage device within the host device (page2, In 5-18), thus, the logical-to-physical convert of the slave can perform connection to a

Art Unit: 2126

logical-to-physical converter of the host device.

23. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Admit Prior Art (APA) in view Thompson et al (US. Patent 5,463,772) view of Jigour et al ( US. Patent 5,815,426) and further in view of Intel (Understanding the Flash Translation (FTL) Specification).

24. As to claim 4, APA, Thompson and Jigour do not teach a logical-to-physical converter. However, Intel teaches logical-to-physical converter (Logical to physical mapping, section 7.0).

25. It would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of APA, Thompson, Jigour and Intel because Intel's logical to physical mapping would translates between physical and logical addresses.

26. As to claim 5, APA teaches application program within host device can use the storage device of slave in the same manner of using a storage device within the host device (page2, ln 5-18), thus, the logical-to-physical convert of the slave can perform connection to a logical-to-physical converter of the host device.

27. As to claim 6, Thompson teaches file system driver (driver 18, col 19, ln 11-14/ a tape driver, col 25, ln 45-50).

28. As to claim 7, APA teaches predetermine protocol (the physical coupling device, page 2, ln 5-7).



Art Unit: 2126

***Allowable Subject Matter***

29. Claims 10 and 16-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

32. ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LeChi Truong whose telephone number is (703) 305 5312 and (571)272-3767 ( new). The examiner can normally be reached on 8 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 703-305-9678. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIP. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIP system, contact the Electronic Business Center (EBC) at 866-217-9197(toll-free).

LeChi Truong

September 20, 2004

  
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